



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/743,745

12/24/2003

Shigekazu Yasuoka

SNY-048

9090

20374 7590 08/20/2008

KUBOVCIK & KUBOVCIK
SUITE 1105
1215 SOUTH CLARK STREET
ARLINGTON, VA 22202

EXAMINER

ROE, JESSEE RANDALL

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

08/20/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/743,745	Applicant(s) YASUOKA ET AL.	
	Examiner Jessee Roe	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 May 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 9-16 and 21-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 9-16 and 21-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10 April 2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of the Claims

Claims 1-4, 9-16 and 21-25 are pending wherein claims 1 and 13 are amended and claims 5-8 and 17-20 are canceled.

Terminal Disclaimer

The terminal disclaimer filed on 28 January 2008 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of 11/041,678 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Status of Previous Rejections

The previous provisional rejection of claims 1, 5-8, 3 and 17-20 on the ground of non-statutory double patenting over claims 1-2, 7-8, 13-14 and 17-18 of copending application 11/041678 is withdrawn in view of the terminal disclaimer filed on 28 January 2008.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Kaneko (US 5,964,968).

In regards to claim 1, Kaneko ('968) discloses a hydrogen absorbing alloy that would be used for a battery with a formula of the form:

$\text{La}_{0.23}\text{Ce}_{0.46}\text{Pr}_{0.05}\text{Nd}_{0.18}\text{Mg}_{0.08}\text{Ni}_{3.38}\text{Al}_{0.19}\text{Co}_{0.5}\text{Mn}_{0.47}\text{Fe}_{0.02}$ (abstract and col. 6, lines 25-32

and 48-49), wherein 1-x in the formula $\text{Ln}_{1-x}\text{Mg}_x\text{Ni}_{y-a}\text{Al}_a\text{M}_b$ (sum of subscripts of La, Ce, Pr and Nd) = 0.92; x = 0.08 (subscript of Mg); a = 0.19 (subscript of Al); y-a = 3.38 (subscript of Ni), therefore y = 3.57; and b (subscript of M) = 0.99, which would be within the limitations of $0.05 \leq x < 0.20$, $2.8 \leq y \leq 3.9$, $0.10 \leq a \leq 0.25$, and $0 \leq b$ and the mole ratio of lanthanum/total rare earth elements would be 0.23:0.92 or 0.25 which satisfies the limitation of being not greater than 0.5. The alloy would be used as the anode (negative electrode) in a battery (col. 4, line 58 – col. 5, line 30).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 9-16 and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko (US 5,964,968).

In regards to claims 1-4 and 13-16, Kaneko ('968) discloses a hydrogen

Art Unit: 1793

absorbing alloy of the form $(R_{1-x}L_x)(Ni_{1-y}M_y)_z$, where R stands for the elements La, Ce, Pr, Nd, or mixtures thereof; L stands for Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Y, Sc, Mg, Ca, or mixtures thereof; M stands for Co, Al, Mn, Fe, Cu, Zr, Ti, Mo, Si, V, Cr, Nb, Hf, Ta, W, B, C, or mixtures thereof; and x, y, and z satisfy the formulae of $0.01 \leq x \leq 0.1$, $0 \leq y \leq 0.5$, and $4.5 \leq z \leq 5.0$. The hydrogen storage alloy would be used as the anode (negative electrode) in a battery (col. 3, lines 28-48). The battery would be composed of an electrolytic solution (alkaline) (col. 3, lines 10-20 and Example I) and would be comprised of a cathode (positive electrode).

With respect to the recitation "a mole ratio of La in said at least one element selected from rare earth elements is not greater than 0.5", it is well settled that there is no invention in the discovery of a general formula if it covers a composition described in the prior art, *In re Cooper and Foley* 1943 C.D. 357, 553 O.G. 177; 57 USPQ 117, *Taklatwalla v. Marburg*, 620 O.G. 685, 1949 C.D. 77, and *In re Pilling*, 403 O.G. 513, 44 F(2) 878, 1931 C.D. 75. In absence of evidence to the contrary, the selection of the proportions of elements would appear to require no more than routine investigation by those of ordinary skill in the art. *In re Austin, et al.*, 149 USPQ 685, 688. It would have been obvious to one of ordinary skill in the art to select the desired amounts of lanthanum and other rare earth elements from the ranges disclosed by Kaneko ('968) such that the ratio would be satisfied because Kaneko ('968) discloses the same utility (hydrogen storage alloy) throughout the disclosed ranges.

In regards to claims 9-12 and 21-24, Kaneko ('968) discloses a hydrogen absorbing alloy that would be used in a battery wherein the average particle size would

be in the range of 20 to 100 μm (col. 9, lines 1-17 and Example I), which overlaps the claimed average particle size of the instant invention, which is a prima facie case of obviousness. See MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the claimed particle size from the particle size disclosed by Kaneko ('968) because Kaneko ('968) discloses the same utility throughout the disclosed ranges.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko (US 5,964,968), as applied to claim 13 above, and further in view of Newman et al. (5,283,139).

In regards to claim 25, Kaneko ('968) discloses a hydrogen absorbing alloy that would be used in a battery as shown above, but Kaneko ('968) does not specify wherein the amount of alkaline electrolyte would be 0.31 ml or less per gram of the hydrogen absorbing alloy.

Newman et al. ('139) disclose, in the same field of endeavor, wherein a reducing the amount of electrolyte in a battery would effectively increase the density and this increase in density would yield a higher battery discharge and increase overall cell performance (col. 3, lines 7-68).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to reduce the electrolyte volume, as disclosed by Newman et al. ('139), when using a hydrogen absorbing alloy in a battery, as disclosed by Kaneko ('968), in order to effect a higher battery discharge and increase overall cell performance because increasing the effective density (by

reducing the electrolyte) would be a result-effective variable in achieving a desired battery discharge, as disclosed by Newman et al. ('139) (col. 3, lines 7-68). See MPEP 2144.05 II.

Response to Arguments

Applicant's arguments filed 28 January 2008 have been fully considered but they are not persuasive.

First, the Applicant primarily argues that claim 1 has been amended with the limitations of claim 5 to overcome the 102(b) rejection. In response, the Examiner notes that claim 5, before being canceled, recited "wherein part of the nickel is replaced with at least one element selected from V, Nb, Ta, Cr, Mo, Mn, Fe, Co, Ga, Zn, Sn, In, Cu, Si, P and B". Nickel replacement is not recited in claim 1 and Kaneko ('968) discloses a hydrogen absorbing alloy that would be used for a battery with a formula of the form: $\text{La}_{0.23}\text{Ce}_{0.46}\text{Pr}_{0.05}\text{Nd}_{0.18}\text{Mg}_{0.08}\text{Ni}_{3.38}\text{Al}_{0.19}\text{Co}_{0.5}\text{Mn}_{0.47}\text{Fe}_{0.02}$ (abstract and col. 6, lines 25-32 and 48-49), which meets the limitations of claim 1.

Second, the Applicant primarily argues that the alloy of the present invention has a crystalline structure of AB_3 or $\text{AB}_{3.5}\text{Ce}_2\text{Ni}_7$ whereas the alloys of Kaneko ('968) have an AB_2 or AB_5 crystalline structure. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., AB_3 or $\text{AB}_{3.5}\text{Ce}_2\text{Ni}_7$) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification,

Art Unit: 1793

limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessee Roe whose telephone number is (571) 272-5938. The examiner can normally be reached on Monday-Friday 7:30 AM - 4:30 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Roy V. King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1793

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John P. Sheehan/
Primary Examiner, Art Unit 1793

JR

<div>Application Number</div> <div></div>	Application/Control No.	Applicant(s)/Patent under Reexamination	
	10/743,745	YASUOKA ET AL.	
	Examiner	Art Unit	
	Jessee Roe	1793	